COAL CREEK SUPERFUND SITE

CHEHALIS, WASHINGTON

FIVE YEAR REVIEW REPORT

MARCH 2005

United States Environmental Protection Agency
Region 10
Seattle, Washington 98101

Five-Year Review Summary Form

SITE IDENTIFICATION

Site name *(from WasteLAN)*: Coal Creek

EPA ID *(from WasteLAN)*: WAD 980726061

Region:10	**State:** WA	**City/County:** Chehalis, Washington

SITE STATUS

NPL status: ☐ Final ☐ Deleted ☐ Other (specify) Non-NPL

Remediation status Complete

Multiple OUs?* No	**Construction completion date:** ___ / ___ / _____

Has site been put into reuse? NO

REVIEW STATUS

Lead agency: ☐ XXEPA ☐ State ☐ Tribe ☐ Other Federal Agency _____

Author name: Judi Schwarz

Author title: site manager	**Author affiliation:**U.S. EPA, Region 10

Review period:** 1/15/2005 to 3/2005

Date(s) of site inspection: 1/24/2005

Type of review:

☐ Post-SARA ☐ Pre-SARA ☐ NPL-Removal only
☐XXXX Non-NPL Remedial Action Site ☐ NPL State/Tribe-lead
☐ Regional Discretion

Review number: ☐ 1 (first) ☐ XXX2 (second) ☐ 3 (third) ☐ Other (specify) _____

Triggering action:

☐ Actual RA Onsite Construction at OU #____ ☐ Actual RA Start at OU#____
☐ Construction Completion ☐ XXXPrevious Five-Year Review Report
☐ Other (specify) _____

Triggering action date *(from WasteLAN)*: 2/4/2000

Due date *(five years after triggering action date)*: 2/4/2005

* ["OU" refers to operable unit.]
** [Review period should correspond to the actual start and end dates of the Five-Year Review in WasteLAN.]

Five-Year Review Summary Form, cont'd.

Issues:

No issues were identified

Recommendations and Follow-up Actions:

Two recommendations are made:

1. The Lewis County PUD's periodic site inspections in accordance with the approved O&M plan should be documented, with copies submitted to EPA annually.

2. Prior to the next five year review, a title search should be performed to ensure that the proprietary institutional controls are in place and can be found in the public record. At that time, EPA should also review the proprietary control to see if it was properly implemented to ensure long-term protectiveness of the remedy, considering EPA's guidelines and state law.

Protectiveness Statement(s):

The remedy at the Coal Creek Site is protective of human health and the environment. The cap appears to be in good shape, and the fence and institutional controls are effective in limiting access to the site.

I. INTRODUCTION

Region 10 of the Environmental Protection Agency (EPA) conducted a Five-Year Review of the Coal Creek Site and prepared this report consistent with the requirements of Section 121 (c) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) as amended and Section 300.430(f)(4)(ii) of the National Oil and Hazardous Substances Contingency Plan (NCP). This five year review was conducted to ensure that the remedial action remains protective of public health and the environment and is functioning as designed. This site is not on the National Priorities List, but is subject to review as a matter of Region 10 policy because the remedy was selected pursuant to Section 121 of CERCLA and hazardous substances remain on the site above levels that allow for unlimited use and unlimited exposure. This review was started in January 2005 and completed in March 2005. This is the second five year review for Coal Creek site.

The Agency is preparing this five-year review pursuant to CERCLA §121 and the National Contingency Plan (NCP). CERCLA §121 states:

> *If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.*

The agency interpreted this requirement further in the National Contingency Plan (NCP); 40 CFR §300.430(f)(4)(ii) states:

> *If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.*

The methods, findings, and conclusions of the review are documented in this Five-Year Review report. In addition, the Five-Year Review report identifies issues found during the review, if any, and recommendations to address them.

II. SITE CHRONOLOGY

Table 1: Chronology of Site Events

Event	Date
Potentially Responsible Parties took actions to stabilize the site	1983 - 1984
EPA Issued CERCLA Administrative Order on Consent for Remedial Investigation/Feasibility Study	February 19, 1988
Remedial Investigation/Feasibility Study complete	August 15, 1989
ROD signature	October 17, 1990
Consent decree with de minimis parties	November 1991
Consent decree with major parties	November 1991
Restrictive Covenant filed with County Auditor	March 10, 1992
Phase I Remedial Action	March 1993 to May 1993
Phase II Remedial Design approved by EPA	November 4, 1993
Phase II Remedial Action	September 1993 to October 1994
Consent Decree with de minimis parties terminated	August 11, 1994
Remedial Action Report approved by EPA	February 1995
O&M Plan approved by EPA	March 8, 1995
First five-year review completed	February 4, 2000
Consent decree with major parties terminated	December 22, 2000
Monitoring wells abandoned in accordance with state regulations	July 9, 2001

III. Background

The Coal Creek Site, consisting of approximately eight acres, is located at the head of an alluvial valley approximately one mile northeast of Chehalis, Washington. The site address is 346 Coal Creek Road, Chehalis, Washington. The site is currently owned by Lewis County Public Utility District and is bounded by Coal Creek to the south and west, by Coal Creek Road to the east, and land owned by Lewis County PUD to the north. The site is located in a rural, residential area and has been owned primarily by electric utilities since the early 1900s. Past operations included a coal fired steam generation plant in the 1930s and 40s and a succession of transformer scrapping/repair businesses from 1948 to 1983. In the conduct of their operations at the site, these owners and operators engaged in activities involving hazardous substances including, but not limited to polychlorinated biphenyls and heavy metals. As a result of spills or intentional disposal, these substances were released to the environment. Elevated concentrations of these contaminants were detected in soils, sediments, ground water and surface water. Pathways of contamination included surface water runoff, groundwater discharging from the former fill mound, sediment migration down a former drainage ditch which connected the fill mound with Coal Creek, and emissions in the form of volatile gases and fugitive dusts.

In 1983 and 1984, the Potentially Responsible Parties took actions to stabilize the site. These response actions included covering portions of the former fill mound with plastic to control air emissions and prevent rainfall from percolating through contaminated soils, installation of plywood dams in the drainage ditch to retard migration of contaminated sediments, installation of monitoring wells to assess the extent of contamination in the groundwater, and erection of a perimeter fence to secure the site.

On February 19, 1988 a Consent Order on the Coal Creek Site was issued by the EPA pursuant to Sections 104 and 122 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA). The Consent Order required the Coal Creek Committee representatives to conduct a Remedial Investigation/Feasibility Study (RI/FS) consistent with CERCLA and the National Contingency Plan (NCP). The Coal Creek Committee was composed of approximately 88 PRPs, most of which were electric utilities that shipped used electrical equipment to the site for disposal. The work plan, dated October 20, 1987, and incorporated into the order by reference, described the field activities and analyses deemed necessary to fill the remaining data gaps and complete the RI/FS. The RI/FS was completed by the PRPs on August 15, 1989.

The remedial action objectives developed from these studies were in general to provide a "cost-effective remedial alternative that effectively mitigates and minimizes threats to and provides adequate protection of public health and welfare and the environment." The specific remedial action objectives for the affected media were:

* Prevent human exposure to PCBs and other carcinogenic indicator chemicals that could result in exceeding a cumulative lifetime cancer risk of 10^{-7} to 10^{-4}.

* Prevent human exposure to non-carcinogenic indicator chemicals that could cause the Hazard Index to exceed 1.0.

*Prevent soil with concentrations exceeding the PCB action level from migrating off the former fill mound, from being directly contacted or ingested by humans, from exposure to volatilization or dust generation, or from serving as a medium for vegetable gardening (residential only).

* Prevent groundwater in contact with soil exceeding the PCB action level from migrating out of the fill mound to either surface water or to a deeper aquifer.

* Prevent surface water from contacting soil exceeding the PCB action level.

* Prevent human contact with all identified special features above or below ground surface, and prevent any special features or their contents containing PCBs in excess of the PCB action level from migrating off the mound.

IV. Remedial Actions

A. Record of Decision

On October 17, 1990 EPA issued a CERCLA Record of Decision (ROD). The Washington State Department of Ecology (DOE) concurred with the selected remedy.

The major components of the selected remedy were:

Demolition of on-site structures, including underground storage tank removal and asbestos removal.

Testing and segregation of contaminated soils into batches containing 1) greater than 50 ppm PCBs and 2) greater than 1 ppm and less than 50 ppm PCBs.

On-site incineration of soils containing greater than 50 ppm PCBs.

On-site incineration or off-site treatment of contaminated fluids.

Containment of incinerator ash, soils containing from 1 to 50 ppm PCBs, and soils containing greater than 500 ppm lead in a location above the maximum seasonal groundwater table and beyond the 100 year flood plain. These materials will be contained under an engineered cap.

Perimeter drainage systems to control the runon and runoff of surface waters.

Deed restrictions and/or restrictive covenants to protect the cap and limit land and

groundwater use.

Monitor site conditions for a minimum of five years to assess the potential for contaminant migration.

Two Consent Decree requiring implementation of the ROD were filed in federal district court in November 1991 pursuant to Sections 106 and 107 of CERCLA. One Consent Decree was signed by the major PRPs and the other was signed by the de minimis PRPs.

B. Remedial Implementation

The Coal Creek Site Remedial Action took place in two phases.

Phase I included the demolition of a two-story concrete building and foundation; asbestos abatement; demolition of the site drainage system; resulting debris disposal; and UST removal and decontamination. Phase I took place from March 1993 to May 1993.

Phase II included excavation of contaminated soil; thermal treatment of contaminated soil; containment cell construction; debris disposal; and wetlands restoration. Phase II took place from September 1993 to August 1994. Containment cell cap seeding and wetlands seeding took place during October 1994.

Soils containing greater than 1 ppm PCBs or 500 ppm lead were excavated and placed into two stock piles. Soils containing greater than 1ppm and less than 50 ppm PCBs were placed into a containment cell constructed on site and soils containing greater than 50 ppm PCBs were thermally treated on site.

The incinerator was mobilized to the site in the fall of 1993. Approximately 28,000 tons of fill were brought to the site to provide a working surface around the incinerator and concrete pads with pile support were poured to support the incinerator. A total of 9,715 tons of material were processed in the incinerator from January to May of 1994. During this period several operational tests were performed, including two mini-burns and a performance burn.

The incinerator was demobilized and removed from the site in May and June 1994. The fill material and concrete pads were also removed from the site and the wetland area restored back to its original condition.

A 22,000 cubic yard containment cell was constructed during July and August 1994, to contain the thermally treated soils and the soils containing between 1 and 50 ppm PCBs and greater than 500 ppm lead. A 92,000 square foot synthetic cap was constructed over the cell, which was built with several different layers of materials. These layers included a geosynthetic clay liner, 30-mil PVC liner, geonet drainage layer, a 12 ounce geotextile fabric, a 12 inch

biotic barrier, a second geotextile layer (16 ounce), and one foot of top soil with a covering of selected rye grasses.

Debris containing greater than 50 ppm PCBs was disposed at Envirosafe in Idaho. Larger pieces of debris containing less than 50 ppm PCBS that were unsuitable for placement in the cell were also disposed off-site.

In December 1994, CH2M Hill and Roy F. Weston, Inc. prepared a Remedial Action Report signifying successful completion of construction activities. The RA Report was approved by EPA in February 1995. The report documents and discusses the construction activities for the implementation of the RA. The total remediation cost for the site was approximately $10,000,000.

The inspection, sampling and maintenance requirements for the site were established in the Operation and Maintenance Plan, which was approved by EPA March 8, 1995. However, the part of the plan that requires groundwater and surface water sampling is no longer in effect. The 2000 five year review noted that the groundwater and surface water samples had consistently met cleanup levels over the previous five years and thus recommended that such sampling was no longer necessary. The existing monitoring wells were abandoned in July 2001, in accordance with the Washington State Well Construction Act and implementing regulations.

C. Institutional Control Requirements

In accordance with the requirements in the Consent Decree, on March 10, 1992, the owner of the site, Lewis County Public Utility District No. 1, recorded with the Lewis County Auditor "Property Restrictions and Conveyance of Interest" binding on any and all persons who acquire interest in the property. The restrictive covenants provide access for the United States, the State, and their authorized representatives for the purpose of implementation fo the Consent Decree and include the following restrictions on future use of the property:

1) The property shall not be used for residential or agricultural purpose;

2) Construction, installation, maintenance or use of any wells on the property for human drinking water purposes or for irrigation of feed or food crops is prohibited;

3) Construction activities that would violate the integrity of the containment structure are prohibited; and

4) Maintenance of diversion ditches, flood barriers, and other special features of the remedy shall be maintained.

The institutional controls help assure that the integrity of the remedial structure will not be violated and that the site will remain protective of human health and the environment in the

future. Maintenance of the land use restrictions through restrictive covenants upon property conveyance are included in the continuing obligations of the PRPs and are not affected by termination of the Consent Decree.

A copy of the filed property restriction is attached to this five year review.

V. Progress Since the Last Five Year Review.

As stated above, ground water and surface water sampling was discontinued because all samples for the previous five years had met the cleanup standards established in the ROD. Wells were properly abandoned in July 2001. The consent decree with the major parties was terminated on December 22, 2000, but the continuing obligations established by the consent decree, including those relating to land use restrictions and periodic review, remain in place. Also Lewis County PUD No. 1, the owner of the property, remains responsible for operation and maintenance of the cap and fence.

VI. Five Year Review Process

The five year review process included a review of site records, a site visit and an interview with a representative of the Lewis County PUD. No community involvement activities took place prior to the review because of the location of the site and the low level of interest in the community. A notice of the review will be published in a local newspaper upon completion of the review.

Site Inspection

Inspection of the site was conducted by Bob Kievit and Judi Schwarz of EPA and Jim Day, Superintendent of the Lewis County PUD, on January 24, 2005.

An 8 foot high chain link fence with a locked gate surrounds the containment cell and the adjacent property to the east and south. The fence appeared to be in good shape and both gates were locked. No signs of human intrusion onto the site were observed. There was some garbage inside the fence near the road that could have been thrown over the fence.

The landfill cell cover continues to support a good growth of grasses with no shrubs or trees. No erosion was observed along the slope of the containment cell and no obvious differential settlement was observed on the cell. It appears that the cap has not been mowed, which is consistent with the design of the cap and the O&M plan.

There are two types of drains at the edge of the cell: surface water interceptor trench discharge drains and diversion drains. Two surface water interceptor trenches were constructed to collect surface and shallow ground water from the up gradient side of the site. Trees are growing near the riprap below the outlet of the northwest interceptor trench and may need to be monitored to ensure that the outlet is not blocked. No potential problems were noted at the

outlet of the southern interceptor trench. In addition, there are approximately 13 diversion drain outlets that connect to the drainage layer in the cap. Three of these were spotted during the site visit and they appeared to be in good condition.

Shrubs and trees between the cap and the fence have been maturing. The wetland plants in the lower areas of the site appear to be healthy.

There are no signs of any change in land uses adjacent to the site.

Photos taken during the site visit and a figure showing where those photos were taken can be found in the second attachment.

Interview

The site was discussed with Jim Day during the site visit. The PUD manager who had worked on the cleanup of the site for many years no longer works for the PUD and some information regarding O&M requirements may not have been passed along to the new manager. As a result, there was some discussion about mowing the cap while protecting the wetlands, site use restrictions, and other O&M issues.

VII. Technical Assessment

Question A: Is the remedy functioning as intended by the decision documents?

In general, the review of documents and the results of the site inspection indicates that the remedy is functioning as intended by the ROD. The cap appears to have a healthy cover of suitable vegetation and the fence is in good shape. The monitoring wells have been properly abandoned. Access restrictions and land uses are consistent with the ROD.

It is not apparent whether or not the inspections of the site as required by the approved O&M plan are regularly occurring. As described in the O&M plan, the quarterly inspection activities will include evaluating general site conditions such as site security and inspecting the containment cell cap and side slopes, the drainage systems, and vegetation. Such inspections are important to ensure the long-term protectiveness of the remedy. The PUD has an active facility on the property to the north and thus does keep a general eye on the property, so the lack of documentation does not call into question the protectiveness of the remedy at this time. This review recommends that the required quarterly site inspections be documented, with copies of the documents sent to EPA annually.

Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives used at the time of the remedy selection still valid?

The cleanup levels established for the site in the ROD are still appropriate and protective considering the current and likely future use of the site. There have been no regulatory or

statutory changes that would call into question the protectiveness of the remedy.

Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

Recently, EPA released a strategy to ensure institutional control implementation, monitoring, and enforcement at Superfund sites. As part of this strategy, EPA is recommending a closer look at proprietary controls at construction completed sites, including obtaining title reports to ensure that the control is still in place, and evaluating whether the control was properly implemented, given EPA's increasing knowledge and awareness of the complexity of these issues. It is recommended that this review of the proprietary controls at this site be completed by EPA prior to the next five year review of the Coal Creek site.

VIII. Issues

No issues were identified during this five year review.

IX. Recommendations and Follow-up Actions

Table 2: Recommendations and Follow-up Actions

Recommendations/ Follow-up Actions	Party Responsible	Oversight Agency	Milestone Date	Follow-up Actions: Affects Protectiveness (Y/N)	
				Current	Future
Periodic site inspections in accordance with the with the approved O&M plan should be documented, with copies submitted to EPA annually	Lewis County PUD	EPA	6/30/06; 6/30/07; 6/30/08 6/30/09	no	no
Prior to the next five year review, a title search should be performed to ensure that the proprietary institutional controls are in place and can be found in the public record.	Lewis County PUD	EPA	12/30/09	no	no

Recommendations/ Follow-up Actions	Party Responsible	Oversight Agency	Milestone Date	Follow-up Actions: Affects Protectiveness (Y/N)	
Prior to the next five year review, EPA should review the proprietary control to see if it was properly implemented to ensure long-term protectiveness of the remedy, considering EPA's guidelines and state law.	EPA		1/30/10	no	no

X.. Protectiveness Statement

The remedy at the Coal Creek Site is protective of human health and the environment. The cap is in good shape, and the fence and institutional controls are effective in limiting access to the site.

XI. Next Review

The next five-year review for the Coal Creek Site is required by March 2005, five years from the date of this review.

3/23/05

Dan Opalski, Director
Environmental Cleanup Office

Date

Attachment A: Copy of the Property Restriction and Conveyance of Interest filed March 10, 1992.

9202697

PROPERTY RESTRICTIONS AND CONVEYANCE OF INTEREST

... Public Utility District No. 1 of Lewis County (the "District"), as legal owner of property described in Exhibit "A", pursuant to a Consent Decree entered in the United States District Court for the Western District of Washington, in the cast titled United States of America, Plaintiff, vs. Ross Electric of Washington, Inc., et al., Defendants, Civil Action No. C91-5470B, places the following restrictive covenants on future uses of the property.

a) The property shall not be used for residential or agricultural purposes.

b) Construction, installation, maintenance or use of any wells on the property for human drinking purposes or for irrigation of feed or food crops is prohibited.

c) Construction activities that would violate the integrity of the contaminated structure are prohibited.

d) Maintenance of diversion ditches, flood barriers, and other special features of the remedy shall be maintained.

The District has granted the United States, the State, and their authorized representatives, including the EPA and its contractors, access at all times to the property to which access is required for implementation of the Consent Decree, to the extent access to the property is controlled by the District, for the purposes of conducting any activity to the Consent Decree and as further set forth in the Consent Decree.

These restrictive covenants and access requirements are binding on any and all persons who acquire any interest in the property.

DATED this 10th day of March, 1992.

RECORDED AT REQUEST OF:
PUD
PO Box 330
Chehalis, Wa 98532
92 MAR 10 PM 2:52
GARY E. ZANDELL, AUDITOR
LEWIS COUNTY, WA.
BY [illegible]

Public Utility District No. 1
of Lewis County

By: Gary H. Kalich
Title: Its Manager

STATE OF WASHINGTON)
) ss.
County of Lewis)

I certify that I know or have satisfactory evidence that Gary H. Kalich is the person who appeared before me, and said person acknowledged that he/~~she~~ signed this instrument, on oath stated that he/~~she~~ was authorized to sign this instrument and acknowledged it as the Manager of Public Utility District No. 1 of Lewis County, a Washington corporation, to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument.

DATED: 3-10-92

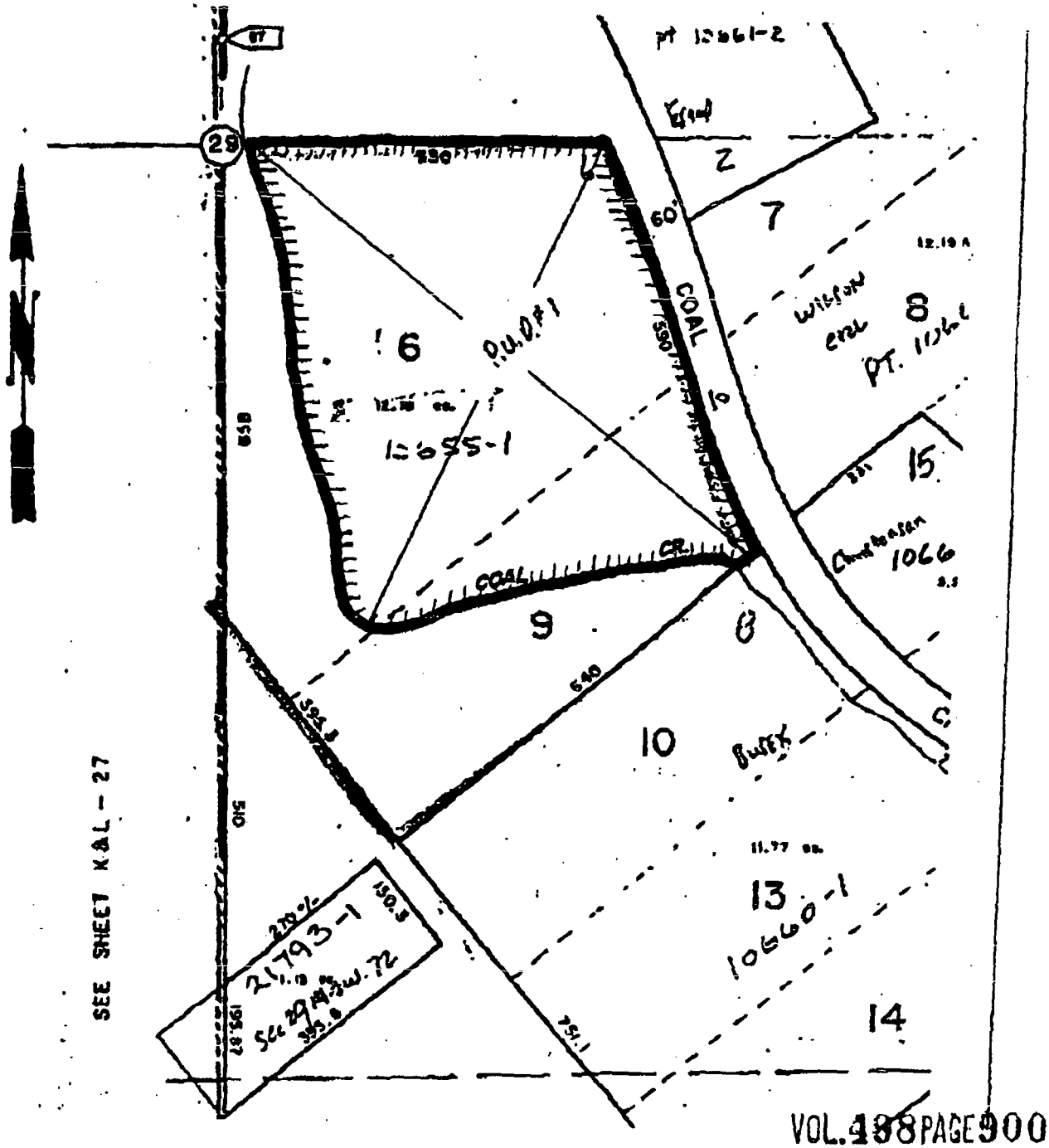
[illegible] NOTARY PUBLIC [illegible]

Catherine R. Blomquist
Notary Public for Washington
My appointment expires: 8-11-95

EXHIBIT A

DESCRIPTION OF COAL CREEK PROPERTY

That part of Lots Six (6) and Nine (9), CHEHALIS LAND AND TIMBER COMPANY'S COAL CREEK SUBDIVISION, lying North and East of and including Coal Creek; EXCEPTING THEREFROM the Coal Creek County Road.



Attachment B: Site map and photos from January 2005 site visit

Photo 1 - Fence along Coal Creek Road

Photo 2 - Gate in fence along Coal Creek Road

Photo 3 - Vegetation on top of cap, looking north

Photo 4 - Vegetation on cap looking southeast

Photo 5 - Vegetation on cap looking east

Photo 6 - Northwest interceptor trench drain

Photo 7 - Vegetation near southern interceptor trench drain

Photo 8 - Diversion drain outlet

Photo 9 - Diversion drain outlet

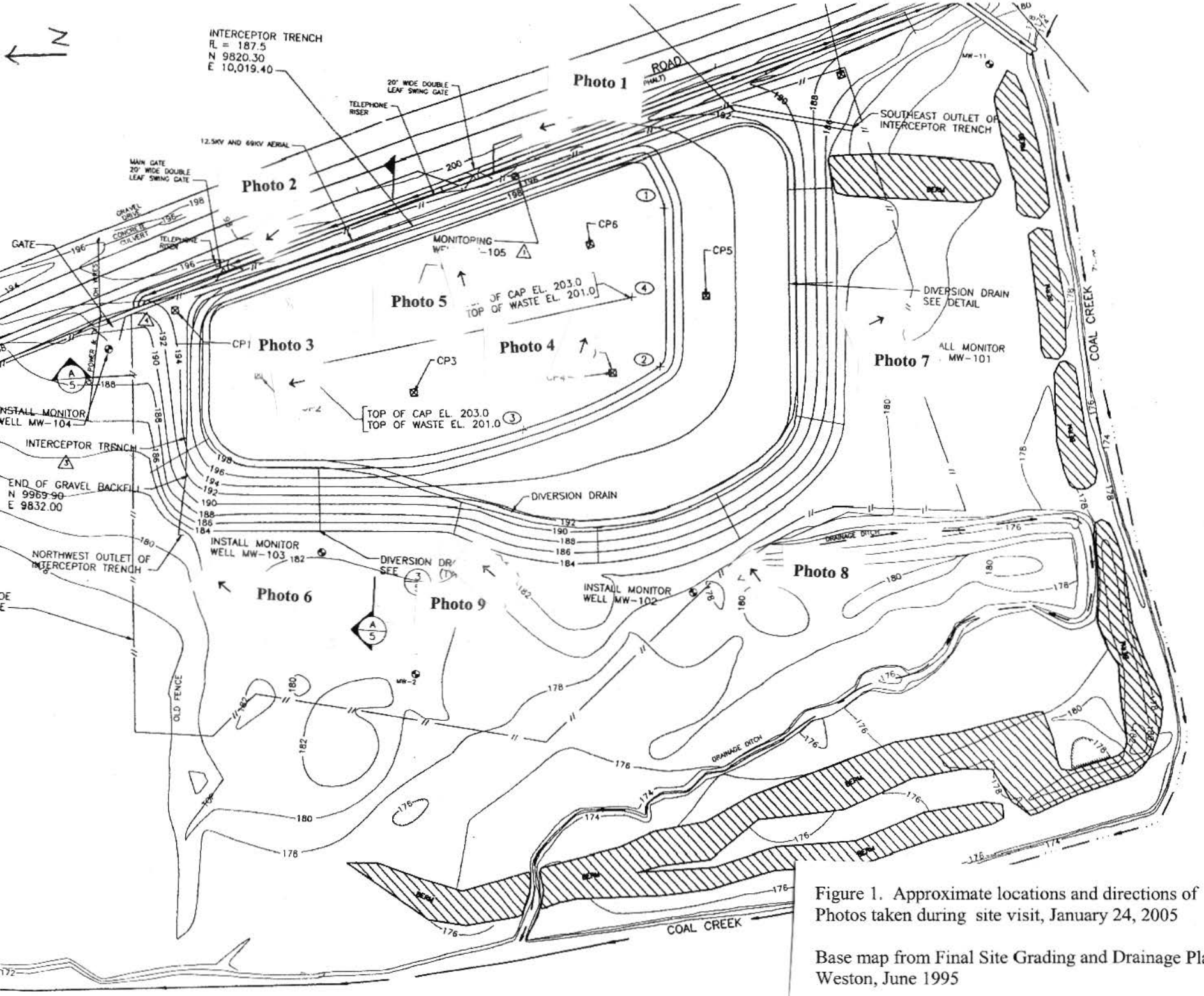


Figure 1. Approximate locations and directions of Photos taken during site visit, January 24, 2005

Base map from Final Site Grading and Drainage Plan, Weston, June 1995